

# Single turn absolute encoder

## Type 926

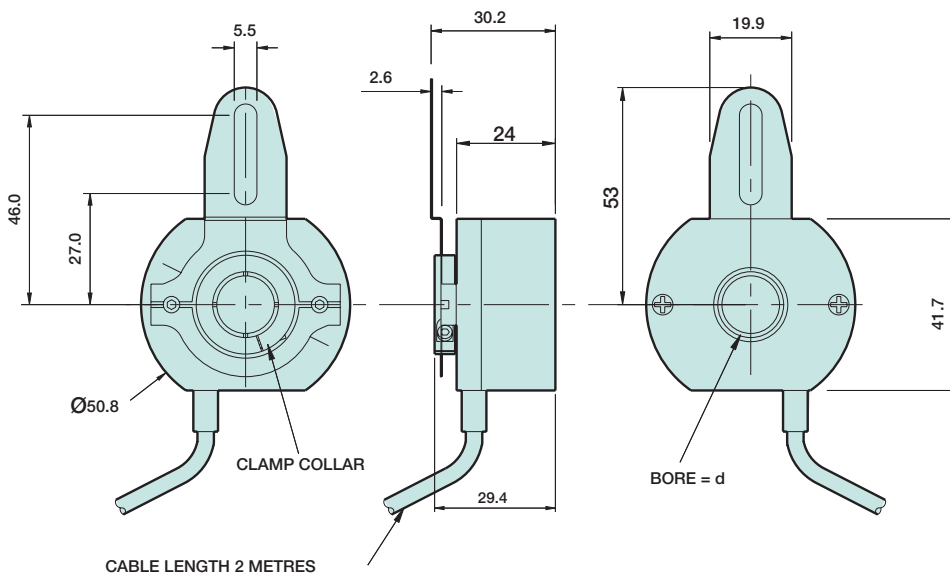
Absolute encoders use a gray coded disc that gives unique position signals rather than the train of pulses from incremental encoders. Thus removing power to the machine does not lose the position, whose signal is reinstated once power is returned. No homing position movements are necessary.

**Compact and economic**

**Hollow shaft 6 or 10mm**

**10 bit resolution, 1024 step/rev**

**Supply 5-26V dc**



### Wire colours

Signal	Wire colour
0V common	Black
+ V (5-24V)	Red
S1 cw MSB	Brown
S1 ccw MSB	Yellow
S2	White
S3	Green
S4	Orange
S5	Blue
S6	Violet
S7	Grey
S8	Pink
S9	Red/Green
S10 LSB	Red/Yellow
Case ground	Screen

### Technical data

#### Electrical

Supply voltage range, V	4.75 to 26
Current consumption @ no load, mA	100
Max output current per channel, mA	20
Max counting frequency, kHz (LSB)	50
Output code	Gray
Repeatability, degrees	≤ 0.01
Accuracy, degrees	≤ 0.04

#### Mechanical

Max r/min	7500
Bore tolerance	H7
Recommended shaft tolerance	g6
Max. shaft runout, radial, mm. TIR	0.15
Max. shaft axial movement, mm.	±0.7
Starting torque, Nm	0.002
Inertia, g/cm <sup>2</sup>	100
Max. acceleration rad/s <sup>2</sup>	1 x 10 <sup>5</sup>
Weight, g	200

#### Environmental

Protection (dust proof)	IP50
Operating temperature °C	0 to +70
Storage temperature °C	-25 to +85
Humidity % RH non-condensing	98
Vibration resistance G @ 58 - 500Hz	10
Shock resistance G @ 11ms	50

#### Stockline numbers

	Bore 6mm	Bore 10mm
Type 926 10 bit absolute encoder	<b>W6-171 057</b>	<b>W6-953 849</b>

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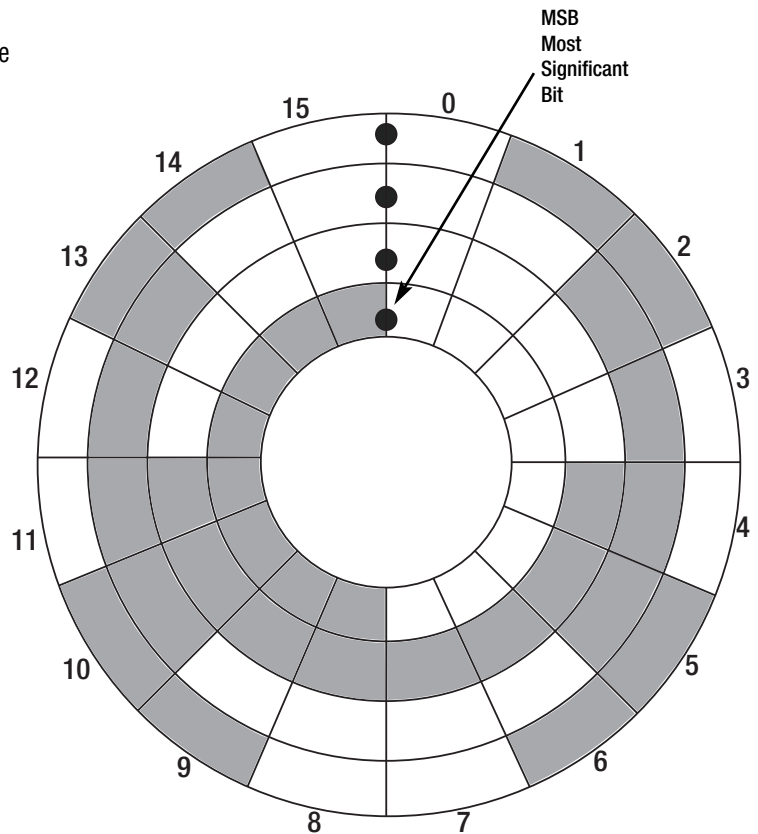
### Gray code signals (4 bit)

This diagram explains the gray coding using the example of a 4 bit disc.

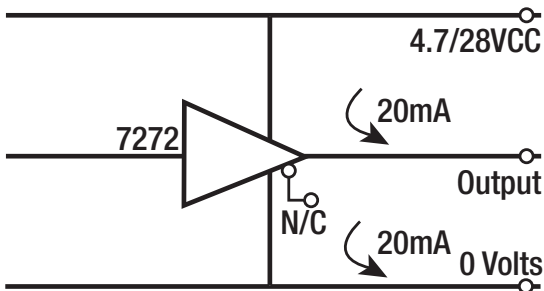
Position	2 <sup>3</sup>	2 <sup>2</sup>	2 <sup>1</sup>	2 <sup>0</sup>
0	0	0	0	0
1	0	0	0	1
2	0	0	1	1
3	0	0	1	0
4	0	1	1	0
5	0	1	1	1
6	0	1	0	1
7	0	1	0	0
8	1	1	0	0
9	1	1	0	1
10	1	1	1	1
11	1	1	1	0
12	1	0	1	0
13	1	0	1	1
14	1	0	0	1
15	1	0	0	0

MSB – Most significant bit  
 LSB – Least significant bit

Direction of rotation :  
 Clockwise looking at spring end of encoder. To reverse the direction of count use the alternative inverted MSB signal brown or yellow (see wire colours).



### Output circuit per channel



### Further information

Installation instructions, Publication No. 498.